

## Supporting Information

### Application of 2D-MoO<sub>3</sub> nano-flakes in Organic Light Emitting Diodes: Effect of Semiconductor to Metal Transition with Irradiation

#### 1. AFM Images for 2D-MoO<sub>3</sub> nano-flakes deposited over ITO coated substrates

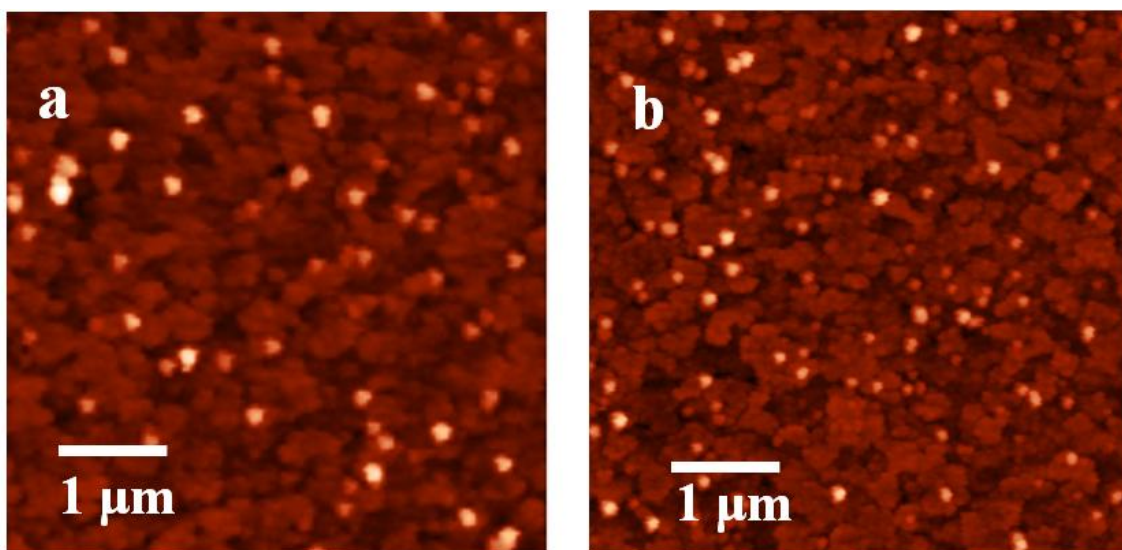
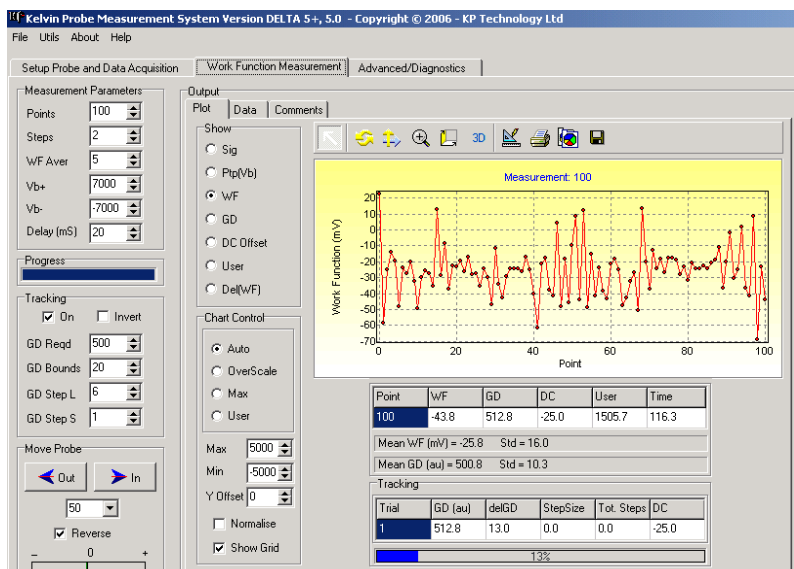
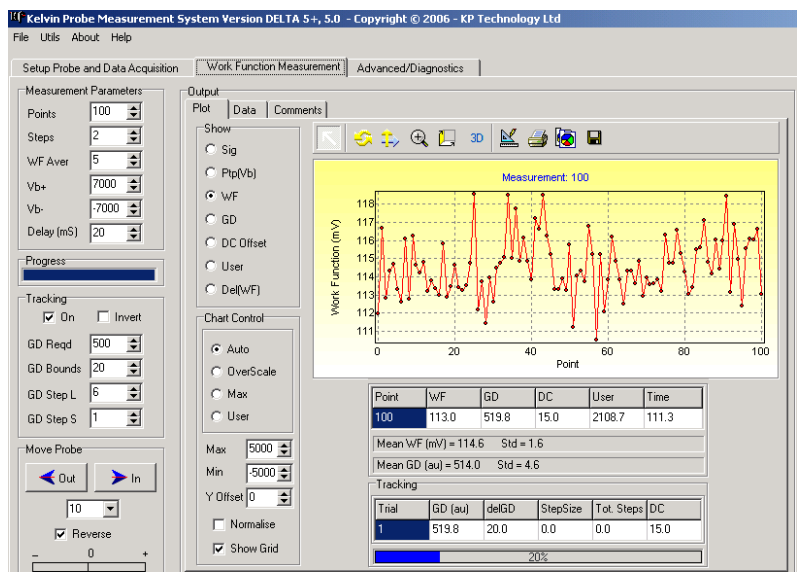


Fig. S1: AFM images for one time (a) and two time (b) coating of 2D-MoO<sub>3</sub> nano-flakes over ITO coated substrates.

## 2. Kelvin probe measurements on 2D-MoO<sub>3</sub> nano-flakes deposited over ITO coated substrates



(a)



(b)

Fig. S2: Signals obtained from Kelvin probe microscopy for (a) bare ITO coated substrate and (b) 2D-MoO<sub>3</sub> nano-flakes with  $t_{\text{irr}} = 120$  min deposited substrates.

### 3. EL Spectrum of OLEDs without and with nano-flakes as HIL

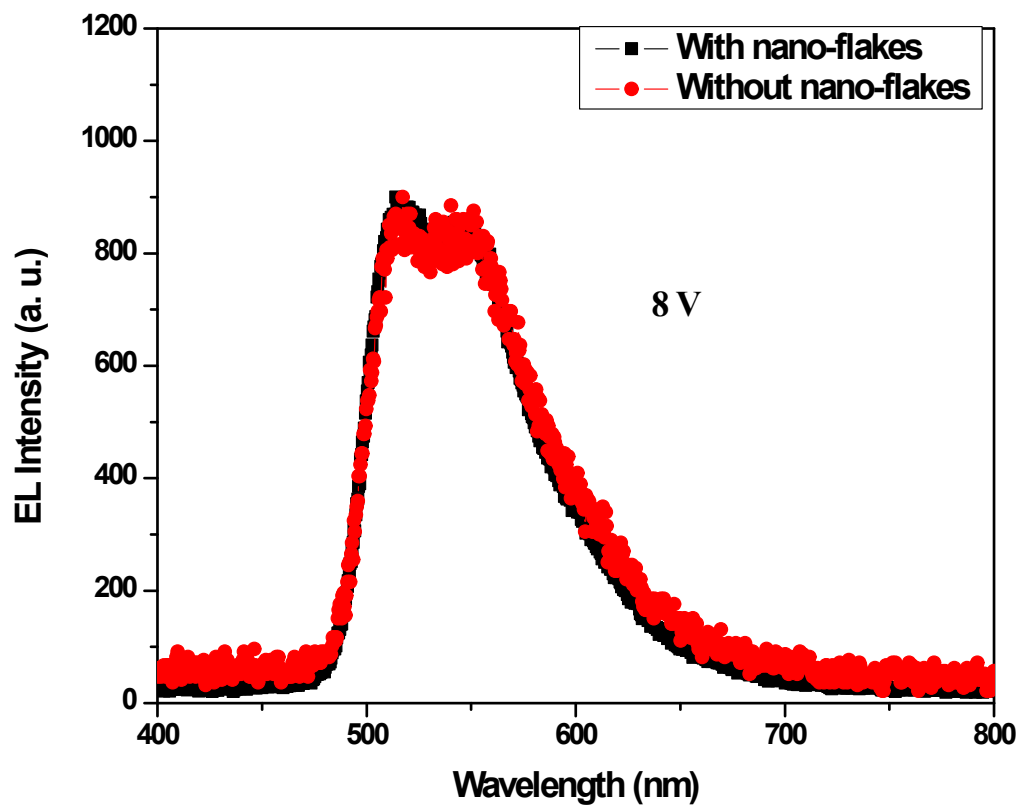


Fig. S3: EL spectrum of OLEDs without and with nano-flakes as HIL.